

FIG. 1

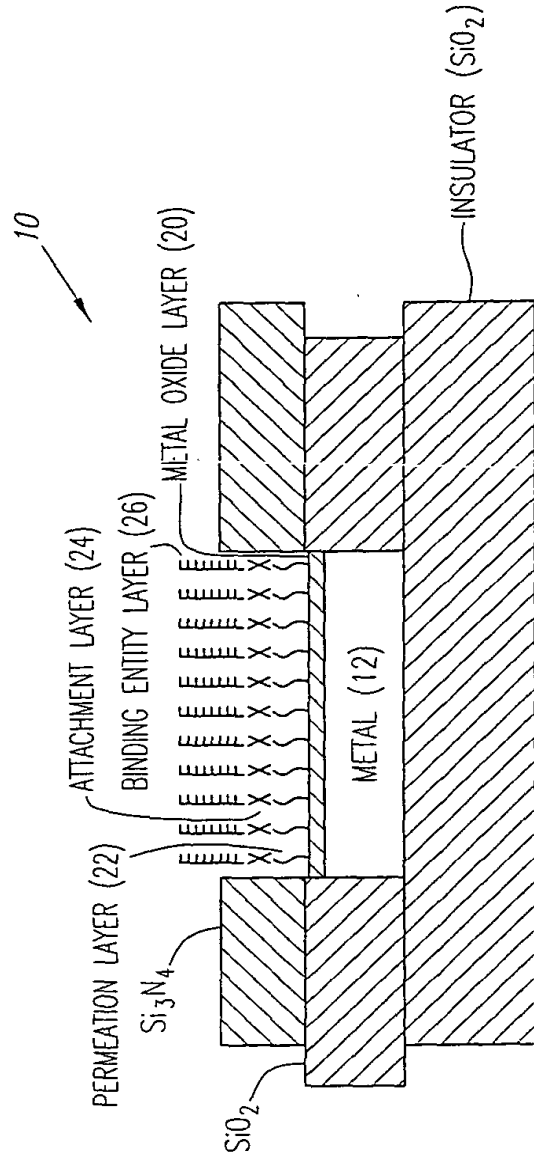


FIG. 2

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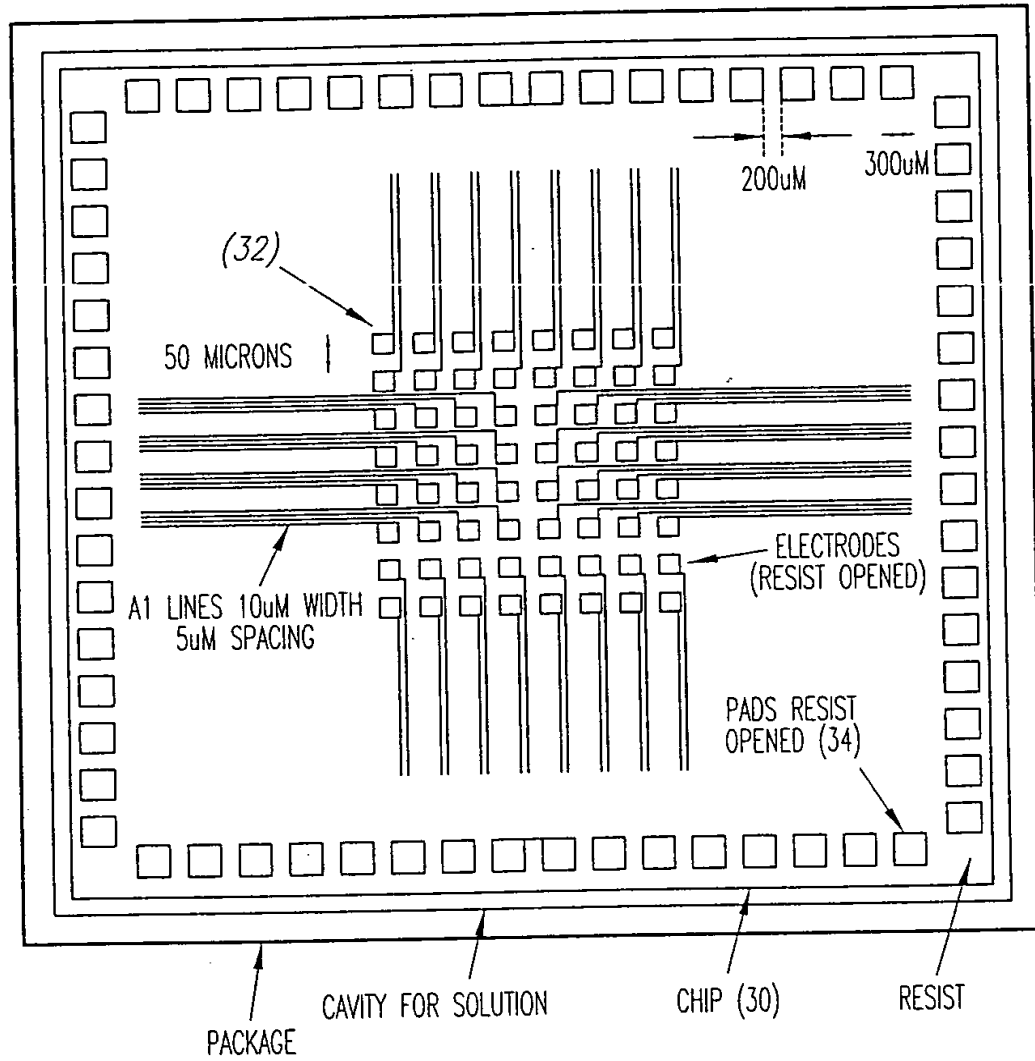


FIG. 3

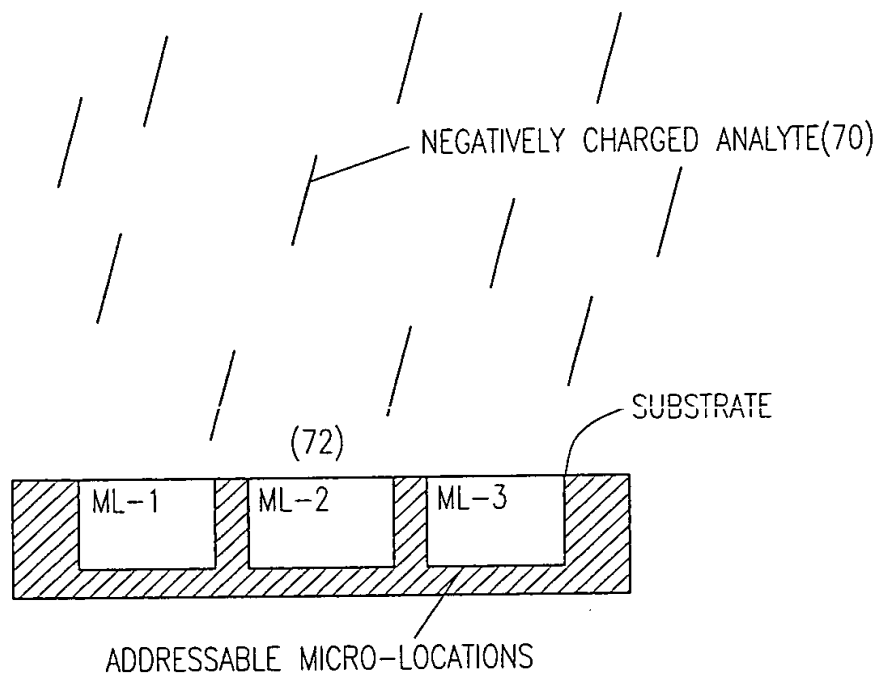


FIG. 4A

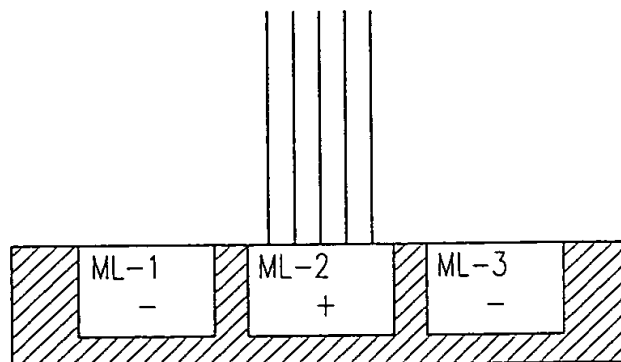


FIG. 4B

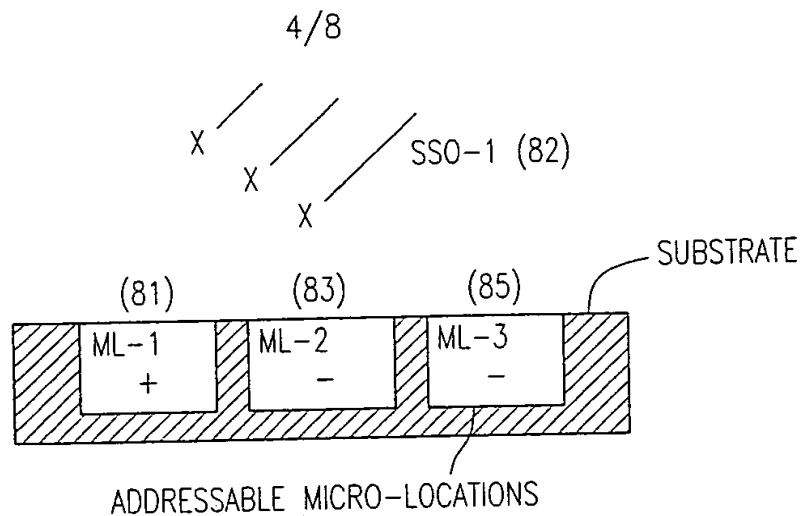


FIG. 5A

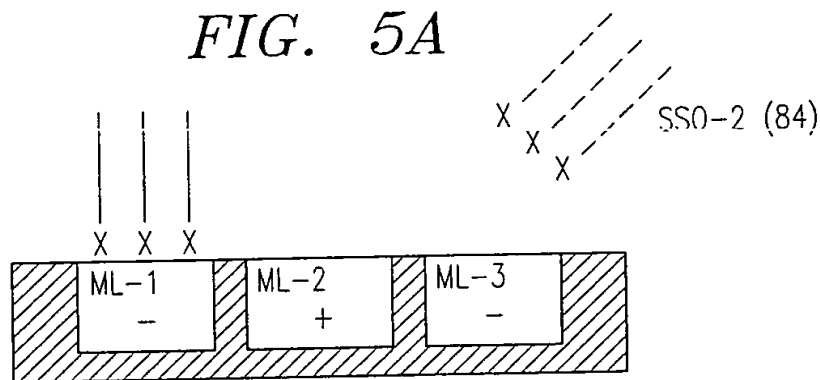


FIG. 5B

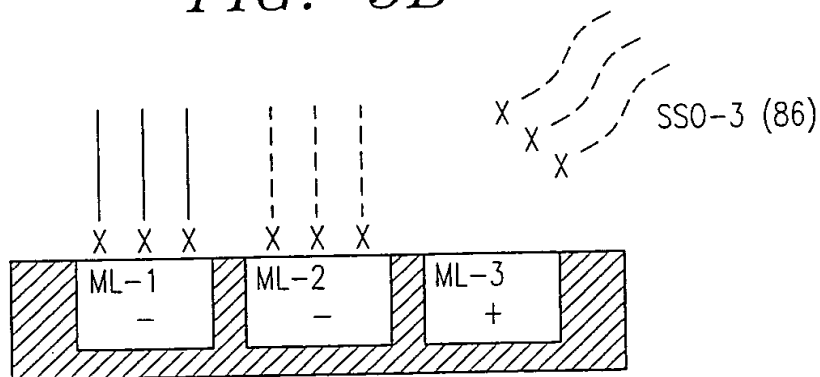


FIG. 5C

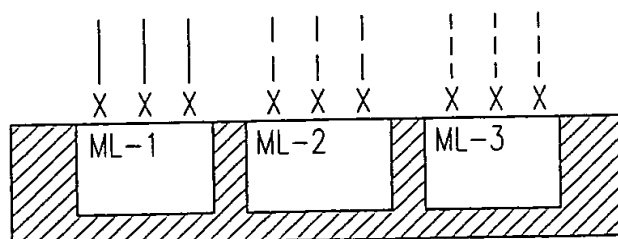


FIG. 5D

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SOL-GEL PERMEATION LAYER WITH AGAROSE

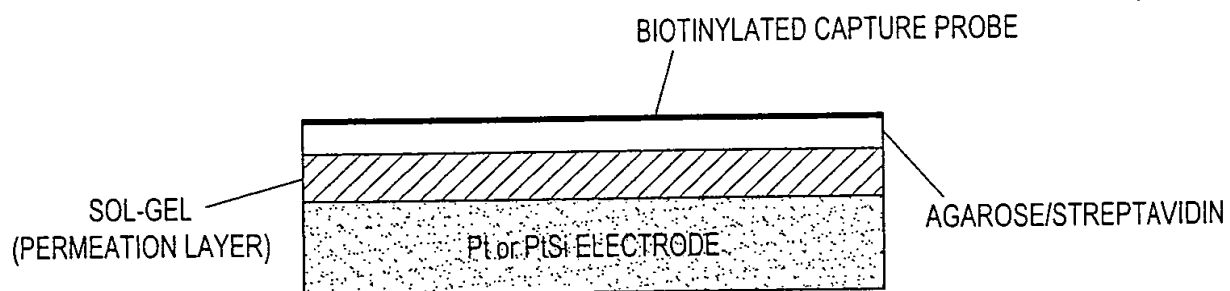


FIG. 6

SOL-GEL PERMEATION LAYER WITH COVALENT ATTACHMENT OF CAPTURE PROBE

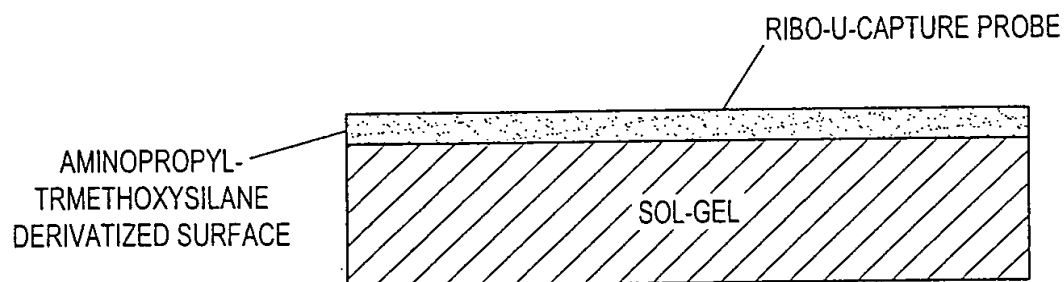
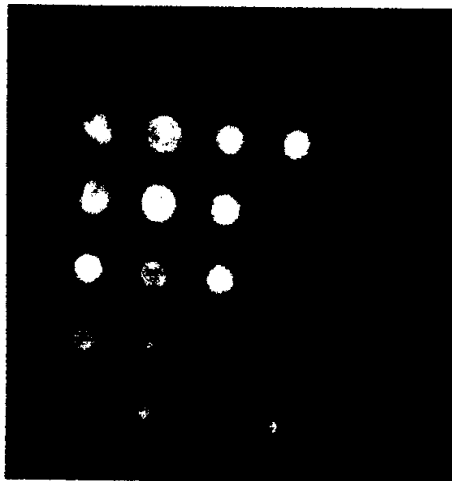


FIG. 9

FIG. 7



Reverse Dot Hybridization - ATA.6/RCA.5

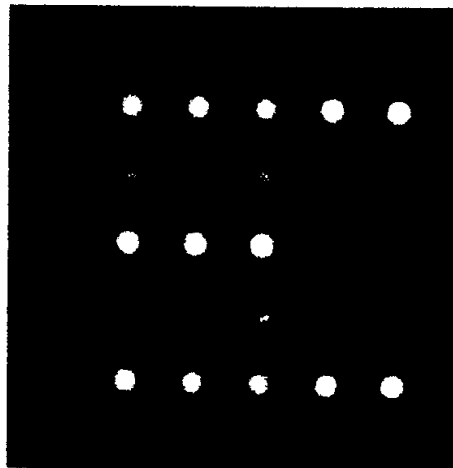


FIG. 8

Conditions						
200 nA, 2min	200 nA, 2min	400 nA, pulse	200 nA, 4 min	200 nA, 4 min		
200 nA, pulse	200 nA, pulse	400 nA, pulse	400 nA, 2 min	400 nA, 2 min		
200 nA, pulse	200 nA, pulse	400 nA, pulse	400 nA, pulse	400 nA, pulse		
200 nA, pulse	none	none	none	400 nA, pulse		
200 nA, pulse	none	none	none	400 nA, pulse		
Results (MFI/sec)						
	2739.7	3223.46	7303.89	4833.02		4507.12
	2736.55	2432.76	3869.88	4910.55		4361.04
	2410.51	1812.5	6061.99	7301.65		5521.98
	2360.5	500.14	536.48	566.61		6097.33
	2191.22	466.62	502.07	517.45		512.36
Capture Load - Columns 1, 3, 5 w/500 nM ATA-II, Columns 2,4 w/500 nM ATA.4						
Loading at a pulsed 400 nA per pad program; # of points listed below						
1800	900	900	900	900		900
1800	900	900	900	900		900
1800	900	900	900	900		900
1800	N/A	N/A	N/A	900		900
1800	N/A	N/A	N/A	N/A		900
Target address - 400 nA pulse per pad, 0.1 sec ON, 0.2 sec OFF, 1000pts.						
20nM RCA.6-BTR						
Results:						
223.23	152.75	259.58	165.04	207.27		
201.95	155.39	261.19	163.37	210.47		
199.1	165.99	315.9	168.12	193.91		
226.18	136.23	138.11	147.53	254.02		
261.76	137.52	137.38	137.46	254.67		
Column 1 vs. Column 2		Column 3.5 vs. Column 4				
Sp/Nsp =	1.41	Sp/Nsp =	1.48			

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Passive hybridization, 2% CTAB

- APS treated sol-gel
- ACA5-ribo-U (1.71 μ M)

PH 7.4

Attachment time: 24 hrs.

- RCA5-BTR (10 μ M)

Incubation time: 15 min.

10 secretory integration (C3):

On pads: Average. MFI = 6760

Off pads: Average. MFI = 3750

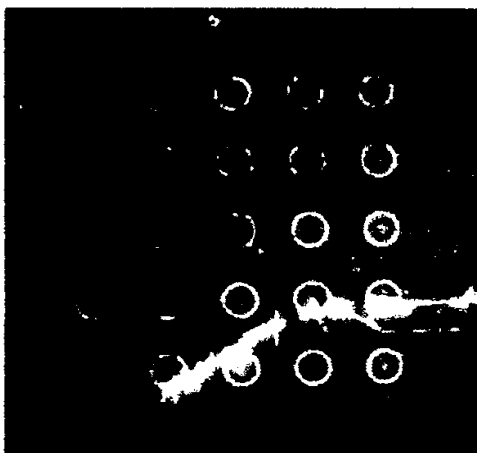


FIG. 10

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Passive hybridization on APS-modified sol-gel surfaces (ATA5-RCA5 duplex)

Sol-Gel coatings are derived from 2% CTAB and are approximately 250 nm thick, except for the right most chip which was over 500 nm thick and synthesized from 3% CTAB.
 All values reported are for fluorescence averaged over the 25 pads

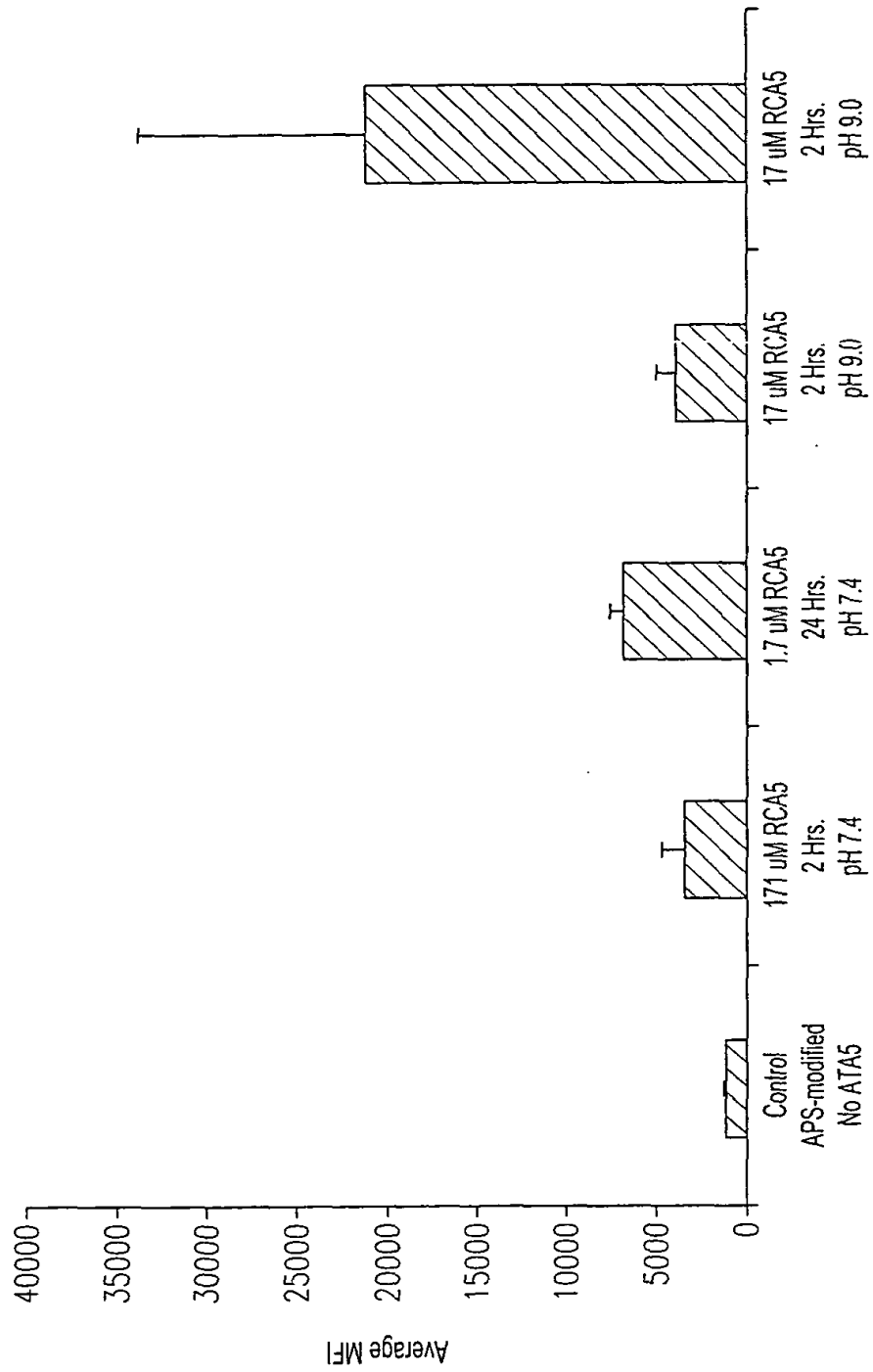


FIG. 11